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SEQUENCE LISTING

<110> The United States of America as Represented by the Secretary of the Department of Health and Human Services, Centers for Disease Control and Prevention

Liu, Hsi
Steiner, Bret
Berta, Rodes

<120> COMPOSITIONS AND METHODS FOR DETECTING TREPONEMA PALLIDUM

<130> 6395-61666

<150> PCT/US00/16425

<151> 2000-06-14

<150> US 60/138,981

<151> 1999-06-14

<160> 26

<170> PatentIn version 3.1

<210> 1

<211> 2945

<212> DNA

<213> Treponema pallidum

<220>

<221> CDS

<222> (919)..(2217)

<223>

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<221> misc_feature

<223> Subspecies: pallidum (Nichols strain)

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gcttctgtca cgccgctttg ggctgtgtgg gaagggaatg cagaaattgg cccccaggga	900
agttttctgc aggacggc atg ttt gtg cgc agt gac atg ttc ccc aaa aac	951
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Thr Ala Val Glu Ile Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala	
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Val Val Ile Gly His Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala	
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ccc gct gct gca gca cag ctt ggg att ggc gta tac caa gct gtg cgt	1095
Pro Ala Ala Ala Ala Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg	
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Val Arg Val Arg Thr Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser	
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Gln Asp Gly Leu Ser Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg	
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Pro Ala Gln Arg Asp Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val	
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Pro Glu Tyr Arg Asp Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser	
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Pro Leu Ser Arg Glu Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala	
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Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala Pro Lys Val	
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Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp	
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Glu Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu	
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<220>
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<223> Subspecies: pallidum (Nichols strain)

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          20           25           30

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Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala
          35           40           45

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Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
          50           55           60

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Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
65           70           75           80

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Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
          85           90           95

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Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
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Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu
115 120 125

Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly
130 135 140

Gly Glu Arg Glu Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser
145 150 155 160

Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val
165 170 175

Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala
180 185 190

Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
195 200 205

Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly
210 215 220

Gly Glu Arg Glu Val Glu Asn Val Pro Lys Val Val Glu Pro Ala Ser
225 230 235 240

Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala Pro Lys Val Val
245 250 255

Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala
260 265 270

Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
275 280 285

Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly
290 295 300

Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser
305 310 315 320

Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val
325 330 335

Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val
340 345 350

Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
355 360 365

Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser Gly His Glu Gly
370 375 380

Gly Glu Arg Glu Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser
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Gly His Glu Gly Gly Glu Arg Glu Val Ala Ser Gln His Thr Lys Gln
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Pro Ser His Ser Val Ser Asn Ser Ala Pro Asn Gln Phe Arg Lys Pro
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<212> DNA
<213> Treponema pallidum

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<222> (1)..(699)
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<220>
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<223> Subspecies: pertenue (CDC-2 strain)

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Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
20 25 30
gca ggg atc ccc ggt ctt cta gtt agc ctt gca ccc gct gct gca gca 144
Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala
35 40 45
cag ctt ggg att ggc gta tac caa gct gtg cgt gta cgc gta cgt acc 192
Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
50 55 60
ttg ggt acc gtg cgc ggt ggg tct caa aca agt cag gac gga ctg tcc 240
Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
65 70 75 80
ctt gca tct ttg ccg tcc cgt gtg cct gcg cgc ccc gcg cag cgt gat 288
Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
85 90 95

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cct ctg tca tcc ccg ccg gca ggt cac act gta ccg gaa tat cgc gat      336
Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
                100                      105                      110

acg gtt att ttc gat gac ccg cgt ttg gtt tcc cct ttg tct cgt gag      384
Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu
                115                      120                      125

gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga      432
Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly
                130                      135                      140

ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct      480
Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser
145                      150                      155                      160

gag cgt gag gga ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg      528
Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val
                165                      170                      175

gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac gtg      576
Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val
                180                      185                      190

ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag      624
Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
                195                      200                      205

gtc gct tct cag cat acg aag cag cca tcc cac tcg gtt tcc aac tca      672
Val Ala Ser Gln His Thr Lys Gln Pro Ser His Ser Val Ser Asn Ser
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gct ccc aat cag ttt cgg aaa ccc tga      699
Ala Pro Asn Gln Phe Arg Lys Pro
225                      230

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<213> Treponema pallidum

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<223> Subspecies: pertenue (CDC-2 strain)

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Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
                20                      25                      30

Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala
35                      40                      45

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Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
50 55 60

Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
65 70 75 80

Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
85 90 95

Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
100 105 110

Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu
115 120 125

Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly
130 135 140

Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser
145 150 155 160

Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val
165 170 175

Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val
180 185 190

Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
195 200 205

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Ala Pro Asn Gln Phe Arg Lys Pro
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<213> Treponema pallidum

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<223> Subspecies: endemicum (Bosnia strain)

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Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His	
20 25 30	
gca ggg atc ccc ggt ctt cta gtt agc ctt gca ccc gct gct gca gca	144
Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala	
35 40 45	
cag ctt ggg att ggc gta tac caa gct gtg cgt gta cgc gta cgt acc	192
Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr	
50 55 60	
ttg ggt acc gtg cgc ggt ggg tct caa aca agt cag gac gga ctg tcc	240
Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser	
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ctt gca tct ttg ccg tcc cgt gtg cct gcg cgc ccc gcg cag cgt gat	288
Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp	
85 90 95	
cct ctg tca tcc ccg ccg gca ggt cac act gta ccg gaa tat cgc gat	336
Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp	
100 105 110	
acg gtt att ttc gat gac ccg cgt ttg gtt tcc cct ttg tct cgt gag	384
Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu	
115 120 125	
gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga	432
Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly	
130 135 140	
ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct	480
Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser	
145 150 155 160	
gag cgt gag gga ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg	528
Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val	
165 170 175	
gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac gtg	576
Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val	
180 185 190	
ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag	624
Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu	
195 200 205	
gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga	672
Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly	
210 215 220	
ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct	720

Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser
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 Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val
 245 250 255
 gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac gtg 816
 Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val
 260 265 270
 ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag 864
 Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
 275 280 285
 gtc gct tct cag cat acg aag cag cca tcc cac tcg gtt tcc aac tca 912
 Val Ala Ser Gln His Thr Lys Gln Pro Ser His Ser Val Ser Asn Ser
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 Ala Pro Asn Gln Phe Arg Lys Pro
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 <213> Treponema pallidum
 <220>
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 <223> Subspecies: endemicum (Bosnia strain)
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 35 40 45
 Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
 50 55 60
 Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
 65 70 75 80
 Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
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 100 105 110

Leu Val Ser Pro Leu Arg Glu Val Glu Asp Ala Pro Lys Val Val Glu
1 5 10 15

Pro Ala Ser

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<213> Treponema pallidum

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Arg Glu Gly Gly
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<211> 20
<212> PRT
<213> Treponema pallidum

<400> 9

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Val Glu Asp Ala
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<210> 10
<211> 21
<212> PRT
<213> Treponema pallidum

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Ala Gln Ala Val Val
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<210> 11
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<213> Treponema pallidum

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<212> PRT
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<213> *Treponema pallidum*

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<220>
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 <223> Subspecies: pallidum (Nichols strain)

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Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His	
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Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala	
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cag ctt ggg att ggc gta tac caa gct gtg cgt gta cgc gta cgt acc	192
Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr	
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Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser	
65 70 75 80	
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Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp	
85 90 95	
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Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp	
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Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu	
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Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly	
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Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu	
195 200 205	
gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga	672
Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly	

210	215	220	
ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser 225 230 235 240			720
gag cgt gag gga ggg gag cgt gag gtg gag gac gcg ccg aag gta gtg Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala Pro Lys Val Val 245 250 255			768
gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac gcg Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala 260 265 270			816
ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu 275 280 285			864
gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly 290 295 300			912
ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser 305 310 315 320			960
gag cgt gag gga ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val 325 330 335			1008
gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac gtg Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val 340 345 350			1056
ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu 355 360 365			1104
gtg gag gac gtg ccg ggg gta gtg gag ccg gcc tct ggg cat gaa gga Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser Gly His Glu Gly 370 375 380			1152
ggg gag cgt gag ⁴ gtg gag gac gtg ccg ggg gta gtg gag ccg gcc tct Gly Glu Arg Glu Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser 385 390 395 400			1200
ggg cat gaa gga ggg gag cgt gag gtc gct tct cag cat acg aag cag Gly His Glu Gly Gly Glu Arg Glu Val Ala Ser Gln His Thr Lys Gln 405 410 415			1248
cca tcc cac tcg gtt tcc aac tca gct ccc aat cag ttt cgg aac cct Pro Ser His Ser Val Ser Asn Ser Ala Pro Asn Gln Phe Arg Asn Pro 420 425 430			1296
gag ggg gaa ctc ccc ttt acg ctc cct gac cta tcc gag tca gaa att Glu Gly Glu Leu Pro Phe Thr Leu Pro Asp Leu Ser Glu Ser Glu Ile 435 440 445			1344
gtg gtt ccg gag gaa cag aaa gga cgt gcg cat ccc cag gtg ata ccc Val Val Pro Glu Glu Gln Lys Gly Arg Ala His Pro Gln Val Ile Pro 450 455 460			1392

gag ggt gcg cca cgt gga ctg caa cct ggt gaa tac tac gta cag att 1440
Glu Gly Ala Pro Arg Gly Leu Gln Pro Gly Glu Tyr Tyr Val Gln Ile
465 470 475 480

gca gtc ttt cat gac gct atc cag gtg cag agc att gtc cac cgt tac 1488
Ala Val Phe His Asp Ala Ile Gln Val Gln Ser Ile Val His Arg Tyr
485 490 495

ggg gta gaa tac ccc atc gca gtg gag cag gac atc cat gaa ggt aag 1536
Gly Val Glu Tyr Pro Ile Ala Val Glu Gln Asp Ile His Glu Gly Lys
500 505 510

gtg cgt ttc acc gta tgc gtc ggt cct gtc caa aaa gac gaa cgc ggc 1584
Val Arg Phe Thr Val Cys Val Gly Pro Val Gln Lys Asp Glu Arg Gly
515 520 525

gcg gta cta gag aac ttc caa agg ttt gga ttc aag gac gcc ttt ctg 1632
Ala Val Leu Glu Asn Phe Gln Arg Phe Gly Phe Lys Asp Ala Phe Leu
530 535 540

aaa aag gcg cga tga 1647
Lys Lys Ala Arg
545

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<210> 20
<211> 548
<212> PRT
<213> Treponema pallidum
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<220>
<221> misc_feature
<223> Subspecies: pallidum (Nichols strain)
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<400> 20

Met Phe Val Arg Ser Asp Met Phe Pro Lys Asn Thr Ala Val Glu Ile
1 5 10 15

Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
20 25 30

Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala
35 40 45

Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
50 55 60

Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
65 70 75 80

Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
85 90 95

Pro	Leu	Ser	Ser	Pro	Pro	Ala	Gly	His	Thr	Val	Pro	Glu	Tyr	Arg	Asp
			100					105					110		
Thr	Val	Ile	Phe	Asp	Asp	Pro	Arg	Leu	Val	Ser	Pro	Leu	Ser	Arg	Glu
		115					120					125			
Val	Glu	Asp	Ala	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly
	130					135					140				
Gly	Glu	Arg	Glu	Val	Glu	Asp	Ala	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser
145					150					155					160
Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val
				165				170						175	
Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Ala
			180					185					190		
Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu
		195					200					205			
Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly
	210					215					220				
Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser
225					230					235					240
Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Ala	Pro	Lys	Val	Val
				245					250					255	
Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Ala
			260					265					270		
Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu
		275					280					285			
Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly
	290					295					300				
Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser
305					310					315					320
Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val
				325					330					335	
Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val

340

345

350

Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
 355 360 365

Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser Gly His Glu Gly
 370 375 380

Gly Glu Arg Glu Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser
 385 390 395 400

Gly His Glu Gly Gly Glu Arg Glu Val Ala Ser Gln His Thr Lys Gln
 405 410 415

Pro Ser His Ser Val Ser Asn Ser Ala Pro Asn Gln Phe Arg Asn Pro
 420 425 430

Glu Gly Glu Leu Pro Phe Thr Leu Pro Asp Leu Ser Glu Ser Glu Ile
 435 440 445

Val Val Pro Glu Glu Gln Lys Gly Arg Ala His Pro Gln Val Ile Pro
 450 455 460

Glu Gly Ala Pro Arg Gly Leu Gln Pro Gly Glu Tyr Tyr Val Gln Ile
 465 470 475 480

Ala Val Phe His Asp Ala Ile Gln Val Gln Ser Ile Val His Arg Tyr
 485 490 495

Gly Val Glu Tyr Pro Ile Ala Val Glu Gln Asp Ile His Glu Gly Lys
 500 505 510

Val Arg Phe Thr Val Cys Val Gly Pro Val Gln Lys Asp Glu Arg Gly
 515 520 525

Ala Val Leu Glu Asn Phe Gln Arg Phe Gly Phe Lys Asp Ala Phe Leu
 530 535 540

Lys Lys Ala Arg
 545

<210> 21
 <211> 1047
 <212> DNA
 <213> Treponema pallidum

<220>

<221> CDS
 <222> (1)..(1047)
 <223>

<220>
 <221> misc_feature
 <223> Subspecies: pertenu (CDC-2 strain)

<400> 21
 atg ttt gtg cgc agt gac atg ttc ccc aaa aac act gct gtt gaa att 48
 Met Phe Val Arg Ser Asp Met Phe Pro Lys Asn Thr Ala Val Glu Ile
 1 5 10 15
 agc aac tta gaa aag aat gcc aag gct cag gca gtg gtt att ggg cac 96
 Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
 20 25 30
 gca ggg atc ccc ggt ctt cta gtt agc ctt gca ccc gct gct gca gca 144
 Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala
 35 40 45
 cag ctt ggg att ggc gta tac caa gct gtg cgt gta cgc gta cgt acc 192
 Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
 50 55 60
 ttg ggt acc gtg cgc ggt ggg tct caa aca agt cag gac gga ctg tcc 240
 Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
 65 70 75 80
 ctt gca tct ttg ccg tcc cgt gtg cct gcg cgc ccc gcg cag cgt gat 288
 Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
 85 90 95
 cct ctg tca tcc ccg ccg gca ggt cac act gta ccg gaa tat cgc gat 336
 Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
 100 105 110
 acg gtt att ttc gat gac ccg cgt ttg gtt tcc cct ttg tct cgt gag 384
 Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu
 115 120 125
 gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga 432
 Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly
 130 135 140
 ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct 480
 Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser
 145 150 155 160
 gag cgt gag gga ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg 528
 Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val
 165 170 175
 gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac gtg 576
 Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val
 180 185 190
 ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag 624
 Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu

195	200	205	
gtc gct tct cag cat acg aag cag cca tcc cac tcg gtt tcc aac tca			672
Val Ala Ser Gln His Thr Lys Gln Pro Ser His Ser Val Ser Asn Ser			
210	215	220	
gct ccc aat cag ttt cgg aac cct gag ggg gaa ctc ccc ttt acg ctc			720
Ala Pro Asn Gln Phe Arg Asn Pro Glu Gly Glu Leu Pro Phe Thr Leu			
225	230	235	240
cct gac cta tcc gag tca gaa att gtg gtt ccg gag gaa cag aaa gga			768
Pro Asp Leu Ser Glu Ser Glu Ile Val Val Pro Glu Glu Gln Lys Gly			
	245	250	255
cgt gcg cat ccc cag gtg ata ccc gag ggt gcg cca cgt gga ctg caa			816
Arg Ala His Pro Gln Val Ile Pro Glu Gly Ala Pro Arg Gly Leu Gln			
	260	265	270
cct ggt gaa tac tac gta cag att gca gtc ttt cat gac gct atc cag			864
Pro Gly Glu Tyr Tyr Val Gln Ile Ala Val Phe His Asp Ala Ile Gln			
	275	280	285
gtg cag agc att gtc cac cgt tac ggg gta gaa tac ccc atc gca gtg			912
Val Gln Ser Ile Val His Arg Tyr Gly Val Glu Tyr Pro Ile Ala Val			
	290	295	300
gag cag gac atc cat gaa ggt aag gtg cgt ttc acc gta tgc gtc ggt			960
Glu Gln Asp Ile His Glu Gly Lys Val Arg Phe Thr Val Cys Val Gly			
305	310	315	320
cct gtc caa aaa gac gaa cgc ggc gcg gta cta gag aac ttc caa agg			1008
Pro Val Gln Lys Asp Glu Arg Gly Ala Val Leu Glu Asn Phe Gln Arg			
	325	330	335
ttt gga ttc aag gac gcc ttt ctg aaa aag gcg cga tga			1047
Phe Gly Phe Lys Asp Ala Phe Leu Lys Lys Ala Arg			
	340	345	

<210> 22

<211> 348

<212> PRT

<213> Treponema pallidum

<220>

<221> misc_feature

<223> Subspecies: pertenue (CDC-2 strain)

<400> 22

Met	Phe	Val	Arg	Ser	Asp	Met	Phe	Pro	Lys	Asn	Thr	Ala	Val	Glu	Ile
1				5					10					15	

Ser	Asn	Leu	Glu	Lys	Asn	Ala	Lys	Ala	Gln	Ala	Val	Val	Ile	Gly	His
		20					25						30		

Ala	Gly	Ile	Pro	Gly	Leu	Leu	Val	Ser	Leu	Ala	Pro	Ala	Ala	Ala	Ala
	35						40					45			

Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
50 55 60

Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
65 70 75 80

Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
85 90 95

Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
100 105 110

Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu
115 120 125

Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly
130 135 140

Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser
145 150 155 160

Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val
165 170 175

Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val
180 185 190

Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu
195 200 205

Val Ala Ser Gln His Thr Lys Gln Pro Ser His Ser Val Ser Asn Ser
210 215 220

Ala Pro Asn Gln Phe Arg Asn Pro Glu Gly Glu Leu Pro Phe Thr Leu
225 230 235 240

Pro Asp Leu Ser Glu Ser Glu Ile Val Val Pro Glu Glu Gln Lys Gly
245 250 255

Arg Ala His Pro Gln Val Ile Pro Glu Gly Ala Pro Arg Gly Leu Gln
260 265 270

Pro Gly Glu Tyr Tyr Val Gln Ile Ala Val Phe His Asp Ala Ile Gln
275 280 285

Val Gln Ser Ile Val His Arg Tyr Gly Val Glu Tyr Pro Ile Ala Val
290 295 300

Glu Gln Asp Ile His Glu Gly Lys Val Arg Phe Thr Val Cys Val Gly
305 310 315 320

Pro Val Gln Lys Asp Glu Arg Gly Ala Val Leu Glu Asn Phe Gln Arg
325 330 335

Phe Gly Phe Lys Asp Ala Phe Leu Lys Lys Ala Arg
340 345

<210> 23
<211> 1287
<212> DNA
<213> Treponema pallidum

<220>
<221> CDS
<222> (1)..(1287)
<223>

<220>
<221> misc_feature
<223> Subspecies: endemicum (Bosnia strain)

<400> 23
atg ttt gtg cgc agt gac atg ttc ccc aaa aac act gct gtt gaa att 48
Met Phe Val Arg Ser Asp Met Phe Pro Lys Asn Thr Ala Val Glu Ile
1 5 10 15
agc aac tta gaa aag aat gcc aag gct cag gca gtg gtt att ggg cac 96
Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
20 25 30
gca ggg atc ccc ggt ctt cta gtt agc ctt gca ccc gct gct gca gca 144
Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala
35 40 45
cag ctt ggg att ggc gta tac caa gct gtg cgt gta cgc gta cgt acc 192
Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
50 55 60
ttg ggt acc gtg cgc ggt ggg tct caa aca agt cag gac gga ctg tcc 240
Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
65 70 75 80
ctt gca tct ttg ccg tcc cgt gtg cct gcg cgc ccc gcg cag cgt gat 288
Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
85 90 95
cct ctg tca tcc ccg ccg gca ggt cac act gta ccg gaa tat cgc gat 336
Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
100 105 110

acg Thr	gtt Val	att Ile 115	ttc Phe	gat Asp	gac Asp	ccg Pro	cgt Arg 120	ttg Leu	gtt Val	tcc Ser	cct Pro	ttg Leu 125	tct Ser	cgt Arg	gag Glu	384
gtg Val	gag Glu 130	gac Asp	gtg Val	ccg Pro	aag Lys	gta Val 135	gtg Val	gag Glu	ccg Pro	gcc Ala	tct Ser 140	gag Glu	cgt Arg	gag Glu	gga Gly	432
ggg Gly 145	gag Glu	cgt Arg	gag Glu	gtg Val	gag Glu 150	gac Asp	gtg Val	ccg Pro	aag Lys	gta Val 155	gtg Val	gag Glu	ccg Pro	gcc Ala	tct Ser 160	480
gag Glu	cgt Arg	gag Glu	gga Gly	ggg Gly 165	gag Glu	cgt Arg	gag Glu	gtg Val	gag Glu 170	gac Asp	gtg Val	ccg Pro	aag Lys	gta Val 175	gtg Val	528
gag Glu	ccg Pro	gcc Ala	tct Ser 180	gag Glu	cgt Arg	gag Glu	gga Gly	ggg Gly 185	gag Glu	cgt Arg	gag Glu	gtg Val	gag Glu	gac Asp	gtg Val	576
ccg Pro	aag Lys	gta Val 195	gtg Val	gag Glu	ccg Pro	gcc Ala	tct Ser 200	gag Glu	cgt Arg	gag Glu	gga Gly	ggg Gly 205	gag Glu	cgt Arg	gag Glu	624
gtg Val	gag Glu 210	gac Asp	gtg Val	ccg Pro	aag Lys	gta Val 215	gtg Val	gag Glu	ccg Pro	gcc Ala	tct Ser 220	gag Glu	cgt Arg	gag Glu	gga Gly	672
ggg Gly 225	gag Glu	cgt Arg	gag Glu	gtg Val	gag Glu 230	gac Asp	gtg Val	ccg Pro	aag Lys	gta Val 235	gtg Val	gag Glu	ccg Pro	gcc Ala	tct Ser 240	720
gag Glu	cgt Arg	gag Glu	gga Gly	ggg Gly 245	gag Glu	cgt Arg	gag Glu	gtg Val	gag Glu 250	gac Asp	gtg Val	ccg Pro	aag Lys	gta Val 255	gtg Val	768
gag Glu	ccg Pro	gcc Ala	tct Ser 260	gag Glu	cgt Arg	gag Glu	gga Gly	ggg Gly 265	gag Glu	cgt Arg	gag Glu	gtg Val	gag Glu	gac Asp	gtg Val	816
ccg Pro	aag Lys	gta Val 275	gtg Val	gag Glu	ccg Pro	gcc Ala	tct Ser 280	gag Glu	cgt Arg	gag Glu	gga Gly	ggg Gly 285	gag Glu	cgt Arg	gag Glu	864
gtc Val	gct Ala 290	tct Ser	cag Gln	cat His	acg Thr	aag Lys 295	cag Gln	cca Pro	tcc Ser	cac His	tcg Ser 300	gtt Val	tcc Ser	aac Asn	tca Ser	912
gct Ala 305	ccc Pro	aat Asn	cag Gln	ttt Phe	cgg Arg 310	aac Asn	cct Pro	gag Glu	ggg Gly	gaa Glu 315	ctc Leu	ccc Pro	ttt Phe	acg Thr	ctc Leu 320	960
cct Pro	gac Asp	cta Leu	tcc Ser	gag Glu 325	tca Ser	gaa Glu	att Ile	gtg Val	gtt Val 330	ccg Pro	gag Glu	gaa Glu	cag Gln	aaa Lys 335	gga Gly	1008
cgt Arg	gcg Ala	cat His	ccc Pro 340	cag Gln	gtg Val	ata Ile	ccc Pro	gag Glu 345	ggt Gly	gcg Ala	cca Pro	cgt Arg	gga Gly 350	ctg Leu	caa Gln	1056
cct	ggt	gaa	tac	tac	gta	cag	att	gca	gtc	ttt	cat	gac	gct	atc	cag	1104

Pro Gly Glu Tyr Tyr Val Gln Ile Ala Val Phe His Asp Ala Ile Gln
 355 360 365

gtg cag agc att gtc cac cgt tac ggg gta gaa tac ccc atc gca gtg 1152
 Val Gln Ser Ile Val His Arg Tyr Gly Val Glu Tyr Pro Ile Ala Val
 370 375 380

gag cag gac atc cat gaa ggt aag gtg cgt ttc acc gta tgc gtc ggt 1200
 Glu Gln Asp Ile His Glu Gly Lys Val Arg Phe Thr Val Cys Val Gly
 385 390 395 400

cct gtc caa aaa gac gaa cgc ggc gcg gta cta gag aac ttc caa agg 1248
 Pro Val Gln Lys Asp Glu Arg Gly Ala Val Leu Glu Asn Phe Gln Arg
 405 410 415

ttt gga ttc aag gac gcc ttt ctg aaa aag gcg cga tga 1287
 Phe Gly Phe Lys Asp Ala Phe Leu Lys Lys Ala Arg
 420 425

<210> 24
 <211> 428
 <212> PRT
 <213> Treponema pallidum

<220>
 <221> misc_feature
 <223> Subspecies: endemicum (Bosnia strain)

<400> 24

Met Phe Val Arg Ser Asp Met Phe Pro Lys Asn Thr Ala Val Glu Ile
 1 5 10 15

Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
 20 25 30

Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala
 35 40 45

Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
 50 55 60

Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
 65 70 75 80

Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
 85 90 95

Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
 100 105 110

Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu
 115 120 125

Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly
130						135					140				
Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser
145					150					155					160
Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val
			165						170					175	
Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val
			180					185						190	
Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu
		195					200					205			
Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly
	210					215					220				
Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser
225					230					235					240
Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val
			245						250					255	
Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val
			260					265						270	
Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu
		275					280					285			
Val	Ala	Ser	Gln	His	Thr	Lys	Gln	Pro	Ser	His	Ser	Val	Ser	Asn	Ser
	290					295					300				
Ala	Pro	Asn	Gln	Phe	Arg	Asn	Pro	Glu	Gly	Glu	Leu	Pro	Phe	Thr	Leu
305					310					315					320
Pro	Asp	Leu	Ser	Glu	Ser	Glu	Ile	Val	Val	Pro	Glu	Glu	Gln	Lys	Gly
				325					330					335	
Arg	Ala	His	Pro	Gln	Val	Ile	Pro	Glu	Gly	Ala	Pro	Arg	Gly	Leu	Gln
			340					345					350		
Pro	Gly	Glu	Tyr	Tyr	Val	Gln	Ile	Ala	Val	Phe	His	Asp	Ala	Ile	Gln
		355					360					365			

Val Gln Ser Ile Val His Arg Tyr Gly Val Glu Tyr Pro Ile Ala Val
370 375 380

Glu Gln Asp Ile His Glu Gly Lys Val Arg Phe Thr Val Cys Val Gly
385 390 395 400

Pro Val Gln Lys Asp Glu Arg Gly Ala Val Leu Glu Asn Phe Gln Arg
405 410 415

Phe Gly Phe Lys Asp Ala Phe Leu Lys Lys Ala Arg
420 425

<210> 25
<211> 1182
<212> DNA
<213> Treponema pallidum

<220>
<221> CDS
<222> (1)..(1182)
<223>

<220>
<221> misc_feature
<223> Subspecies: pertenue (CDC-1 strain)

<400> 25
atg ttt gtg cgc agt gac atg ttc ccc aaa aac act gct gtt gaa att 48
Met Phe Val Arg Ser Asp Met Phe Pro Lys Asn Thr Ala Val Glu Ile
1 5 10 15

agc aac tta gaa aag aat gcc aag gct cag gca gtg gtt att ggg cac 96
Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
20 25 30

gca ggg atc ccc ggt ctt cta gtt agc ctt gca ccc gct gct gca gca 144
Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala
35 40 45

cag ctt ggg att ggc gta tac caa gct gtg cgt gta cgc gta cgt acc 192
Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
50 55 60

ttg ggt acc gtg cgc ggt ggg tct caa aca agt cag gac gga ctg tcc 240
Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
65 70 75 80

ctt gca tct ttg ccg tcc cgt gtg cct gcg cgc ccc gcg cag cgt gat 288
Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
85 90 95

cct ctg tca tcc ccg ccg gca ggt cac act gta ccg gaa tat cgc gat 336
Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
100 105 110

acg gtt att ttc gat gac ccg cgt ttg gtt tcc cct ttg tct cgt gag	384
Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu	
115 120 125	
gga ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc	432
Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala	
130 135 140	
tct gag cgt gag gga ggg gag cgt gag gtg gag gac gtg ccg aag gta	480
Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val	
145 150 155 160	
gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac	528
Val Glu Pro Ala Ser Glu Arg Glu Gly Glu Arg Glu Val Glu Asp	
165 170 175	
gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt	576
Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg	
180 185 190	
gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag	624
Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu	
195 200 205	
gga ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc	672
Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala	
210 215 220	
tct gag cgt gag gga ggg gag cgt gag gtg gag gac gtg ccg aag gta	720
Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val	
225 230 235 240	
gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtc gct tct	768
Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Ala Ser	
245 250 255	
cag cat acg aag cag cca tcc cac tcg gtt tcc aac tca gct ccc aat	816
Gln His Thr Lys Gln Pro Ser His Ser Val Ser Asn Ser Ala Pro Asn	
260 265 270	
cag ttt cgg aac cct gag ggg gaa ctc ccc ttt acg ctc cct gac cta	864
Gln Phe Arg Asn Pro Glu Gly Glu Leu Pro Phe Thr Leu Pro Asp Leu	
275 280 285	
tcc gag tca gaa att gtg gtt ccg gag gaa cag aaa gga cgt gcg cat	912
Ser Glu Ser Glu Ile Val Val Pro Glu Glu Gln Lys Gly Arg Ala His	
290 295 300	
ccc cag gtg ata ccc gag ggt gcg cca cgt gga ctg caa cct ggt gaa	960
Pro Gln Val Ile Pro Glu Gly Ala Pro Arg Gly Leu Gln Pro Gly Glu	
305 310 315 320	
tac tac gta cag att gca gtc ttt cat gac gct atc cag gtg cag agc	1008
Tyr Tyr Val Gln Ile Ala Val Phe His Asp Ala Ile Gln Val Gln Ser	
325 330 335	
att gtc cac cgt tac ggg gta gaa tac ccc atc gca gtg gag cag gac	1056
Ile Val His Arg Tyr Gly Val Glu Tyr Pro Ile Ala Val Glu Gln Asp	
340 345 350	

atc cat gaa ggt aag gtg cgt ttc acc gta tgc gtc ggt cct gtc caa 1104
 Ile His Glu Gly Lys Val Arg Phe Thr Val Cys Val Gly Pro Val Gln
 355 360 365

aaa gac gaa cgc ggc gcg gta cta gag aac ttc caa agg ttt gga ttc 1152
 Lys Asp Glu Arg Gly Ala Val Leu Glu Asn Phe Gln Arg Phe Gly Phe
 370 375 380

aag gac gcc ttt ctg aaa aag gcg cga tga 1182
 Lys Asp Ala Phe Leu Lys Lys Ala Arg
 385 390

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 <212> PRT
 <213> Treponema pallidum

<220>
 <221> misc_feature
 <223> Subspecies: pertenue (CDC-1 strain)

<400> 26

Met Phe Val Arg Ser Asp Met Phe Pro Lys Asn Thr Ala Val Glu Ile
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Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His
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Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala
 35 40 45

Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr
 50 55 60

Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser
 65 70 75 80

Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp
 85 90 95

Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp
 100 105 110

Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu
 115 120 125

Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala
 130 135 140

Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val

145 150 155 160

Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp
165 170 175

Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg
180 185 190

Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu
195 200 205

Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala
210 215 220

Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val
225 230 235 240

Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Ala Ser
245 250 255

Gln His Thr Lys Gln Pro Ser His Ser Val Ser Asn Ser Ala Pro Asn
260 265 270

Gln Phe Arg Asn Pro Glu Gly Glu Leu Pro Phe Thr Leu Pro Asp Leu
275 280 285

Ser Glu Ser Glu Ile Val Val Pro Glu Glu Gln Lys Gly Arg Ala His
290 295 300

Pro Gln Val Ile Pro Glu Gly Ala Pro Arg Gly Leu Gln Pro Gly Glu
305 310 315 320

Tyr Tyr Val Gln Ile Ala Val Phe His Asp Ala Ile Gln Val Gln Ser
325 330 335

Ile Val His Arg Tyr Gly Val Glu Tyr Pro Ile Ala Val Glu Gln Asp
340 345 350

Ile His Glu Gly Lys Val Arg Phe Thr Val Cys Val Gly Pro Val Gln
355 360 365

Lys Asp Glu Arg Gly Ala Val Leu Glu Asn Phe Gln Arg Phe Gly Phe
370 375 380

Lys Asp Ala Phe Leu Lys Lys Ala Arg
385 390